Material Safety Data Sheet

Material Name: PARCO® CLEANER ZX-2 ID: 237159

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name PARCO® CLEANER ZX-2

Manufacturer Information

Henkel Surface Technologies
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1310-58-3	Potassium hydroxide	10-30
1310-73-2	Sodium hydroxide	1-10
Proprietary	Surfactant(s)	1-10

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER -- CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

Material Safety Data Sheet

Material Name: PARCO® CLEANER ZX-2 ID: 237159

*** Section 5 - Fire Fighting Measures ***

Flash Point:	Not applicable	**Method Used:**	Not applicable	**Flammability Classification:**	Non-flammable
Upper Flammable Limit (UFL):	Not applicable	**Lower Flammable Limit (LFL):**	Not applicable		

Fire & Explosion Hazards:

This product is an aqueous mixture which will not burn.

Decomposition Products:

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:

Use any media suitable for the surrounding fires.

Fire-Fighting Instructions:

Firefighters should wear full protective clothing including self contained breathing apparatus.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up.

Clean-Up Procedures:

Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

*** Section 7 - Handling and Storage ***

Handling Procedures:

Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not inhale vapors or mists of this product. NEVER ADD WATER TO PRODUCT. For dilutions, add product slowly to water while stirring. Use caution; heat may be generated.

Storage Procedures:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials.

Manufacturer recommends storing above 40 °F. Thaw and mix thoroughly if frozen.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Potassium hydroxide (1310-58-3)

ACGIH: C 2 mg/m3
OSHA: C 2 mg/m3
NIOSH: 2 mg/m3 TWA

Sodium hydroxide (1310-73-2)

ACGIH: C 2 mg/m3
OSHA: C 2 mg/m3
NIOSH: C 2 mg/m3

Engineering Controls:

Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face Protective Equipment:

Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:

Use impervious gloves. The use of butyl rubber gloves is recommended. Use of impervious apron and boots are recommended.

Respiratory Protection:

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Personal Protective Equipment:

Eye wash fountain and emergency showers are recommended.

* * * Section 9 - Physical & Chemical Properties * * *

Physical State:	Liquid	**Appearance:**	Pale yellow
Odor:	None	**Boiling Point:**	>212 °F (>100 °C)
Specific Gravity:	1.25 - 1.35	**pH:**	>13
Viscosity:	Not applicable	**VOC:**	Not applicable
Solubility Water:	Complete	**Percent Solids:**	30-60

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

None expected.

Incompatibility:

This product reacts with acids.

Decomposition Products:

None expected.

Hazardous Polymerization:

Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity:

A: General Product Information

No information available for the product.

B: Component Analysis - LD50/LC50

Potassium hydroxide (1310-58-3)

Oral LD50 Rat : 273 mg/kg

Carcinogenicity:

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Chronic Toxicity

None expected.

Epidemiology:

No information available for the product.

Neurotoxicity:

No information available for the product.

Mutagenicity:

No information available for the product.

Teratogenicity:

No information available for the product.

Other Toxicological Information:

None available.

*** Section 12 - Ecological Information ***

Ecotoxicity:

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Potassium hydroxide (1310-58-3)

Test & Species		Conditions
LC50 (24 hr) mosquito fish	80.0 mg/L.	

Environmental Fate:

No data is available concerning the environmental fate, biodegradation or bioconcentration for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:

A: General Product Information

This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002).

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. This product contains a chelating agent.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Please refer to the container label for transportation information.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Potassium hydroxide (1310-58-3)

CERCLA: final RQ = 1000 pounds (454 kg)

Sodium hydroxide (1310-73-2)

CERCLA: final RQ = 1000 pounds (454 kg)

SARA 311/312: **Acute:** Yes **Chronic:** No **Fire:** No **Pressure:** No **Reactive:** No

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Potassium hydroxide	1310-58-3	Yes	Yes	Yes	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes	Yes	Yes	Yes

Other Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Potassium hydroxide	1310-58-3	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Potassium hydroxide	1310-58-3	1% item 1335 (996)
Sodium hydroxide	1310-73-2	1% item 1442 (998)

* * * Section 16 - Other Information * * *

NFPA Ratings: Health: 3 **Fire:** 0 **Reactivity:** 0

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe

HMIS Ratings: Health: 3 **Fire:** 0 **Reactivity:** 0 **Pers. Prot.:**

Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

Material Safety Data Sheet

Material Name: PARCO® CLEANER ZX-2 ID: 237159

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Sulinda Leffingwell
Contact Phone: (248) 583-9300

This is the end of MSDS # 237159

Material Safety Data Sheet

Material Name: PARCOLENE® LS 7200

ID: 237211

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name PARCOLENE® LS 7200

Manufacturer Information

Henkel Surface Technologies
32100 Stephenson Highway
Madison Heights, MI 48071

Contact Phone: (248) 583-9300

Chemtrec Emergency # (800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
Proprietary	Manganese Compound	1-10
Proprietary	Fluoride compound	1-10
7664-38-2	Phosphoric acid	1-10
1569-01-3	Propoxypropanol	1-10

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Fluorides (16984-48-8), Manganese compounds, n.o.s., Manganese and its compounds (except manganese hydroxide).

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER! Liquid or vapor can cause fluoride-type irritation or burns which may not be immediately painful or visible.

Eye Contact:

Prolonged contact may cause severe irritation or corneal burns.

Skin Contact:

This product may cause irritation to the skin. Following skin exposure to this product, the sensation of irritation or pain may be delayed. Liquid or vapor can cause fluoride-type irritation or burns which may not be immediately painful or visible.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. Flush with large amounts of water. Soak the affected area for one hour in an iced solution (0.13%) of Zephiran chloride (30 cc of 17% concentrate per gallon of iced distilled water.) GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

* * * Section 5 - Fire Fighting Measures * * *

Flash Point:	146 °F	**Method Used:**	T.C.C.	**Flammability Classification:**	Combustible
Upper Flammable Limit (UFL):	Not determined	**Lower Flammable Limit (LFL):**	Not determined		

Fire & Explosion Hazards:

Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. Combustible liquid.

Decomposition Products:

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:

Dry chemical, foam, carbon dioxide, water fog.

Fire-Fighting Instructions:

Firefighters should wear full protective clothing including self contained breathing apparatus.

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures:

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up. Eliminate all sources of ignition or flammables that may come into contact with a spill of this material. Block any potential routes to water systems.

Clean-Up Procedures:

Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

* * * Section 7 - Handling and Storage * * *

Handling Procedures:

Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not inhale vapors or mists of this product. For industrial use only. Do not take internally. Do not pressurize, cut, heat or weld containers. Empty product containers may contain product residue. Do not reuse empty containers.

Storage Procedures:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. Store between 40 and 100 °F.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Phosphoric acid (7664-38-2)

ACGIH: 1 mg/m3 TWA
3 mg/m3 STEL
OSHA: 1 mg/m3 TWA
3 mg/m3 STEL
NIOSH: 1 mg/m3 TWA
3 mg/m3 STEL

Fluoride compound (Proprietary)

ACGIH: 2.5 mg/m3 TWA (as F) (related to Fluorides)
OSHA: as F: 2.5 mg/m3 TWA (related to Fluorides)
NIOSH: as F: 2.5 mg/m3 TWA (related to Fluorides)

Manganese Compound (Proprietary)

ACGIH: 0.2 mg/m3 TWA (as Mn) (related to Manganese inorganic compounds)

Engineering Controls:

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

PERSONAL PROTECTIVE EQUIPMENT

Eyes/Face Protective Equipment:

Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:

Use impervious gloves. Use of impervious apron and boots are recommended.

Respiratory Protection:

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Personal Protective Equipment:

Eye wash fountain and emergency showers are recommended.

* * * Section 9 - Physical & Chemical Properties * * *

Physical State:	Liquid	**Appearance:**	Orange
Odor:	Slight odor	**Vapor Pressure:**	Not determined
Vapor Density:	Not determined	**Boiling Point:**	>200 °F (>93.3 °C)
Specific Gravity:	1.05 - 1.15	**pH:**	2.9 (6% w/v dilution)
Viscosity:	Not determined	**VOC:**	5% EPA Method 24
Solubility Water:	Complete	**Evaporation Rate:**	Not determined
Percent Volatile:	Not determined	**Percent Solids:**	10-30

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:

Keep away from heat, ignition sources and incompatible materials.

Incompatibility:

This product may react with strong alkalies. This material will react with glass, concrete, certain metals, silica containing materials, rubber, leather, and many organics.

Decomposition Products:

Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. May liberate hydrogen fluoride.

Hazardous Polymerization:

Will not occur.

*** Section 11 - Toxicological Information ***

Acute Toxicity:

A: General Product Information

No information available for the product.

B: Component Analysis - LD50/LC50

Propoxypropanol (1569-01-3)
Oral LD50 Rat : 2504 mg/kg
Dermal LD50 Rabbit : 3550 mg/kg
Phosphoric acid (7664-38-2)
Inhalation LC50 Rat : >850 mg/m3/1H
Oral LD50 Rat : 1530 mg/kg
Dermal LD50 Rabbit : 2740 mg/kg

Carcinogenicity:

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Chronic Toxicity

Contains fluorides. Exposure to fluorides over years may cause fluorosis.

Epidemiology:

No information available for the product.

Neurotoxicity:

No information available for the product.

Mutagenicity:

No information available for the product.

Teratogenicity:

No information available for the product.

Other Toxicological Information:

None available.

*** Section 12 - Ecological Information ***

Ecotoxicity:

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Phosphoric acid (7664-38-2)

Test & Species		Conditions
LC50 (96 hr) mosquito fish	138 mg/L.	

Environmental Fate:

No data available for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:

A: General Product Information

This chemical contains heavy metals. This chemical contains phosphates. This product, if discarded, may be characterized as a RCRA corrosive waste, D002.

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

Empty product containers retain product residue. Do not pressurize, cut, heat, weld or expose such containers to flame.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Please refer to the container label for transportation information.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Phosphoric acid (7664-38-2)

CERCLA: final RQ = 5000 pounds (2270 kg)

Manganese Compound (Proprietary)

SARA 313: form R reporting required for 1.0% de minimis concentration; Chemical Category N450 (related to Manganese compounds)

CERCLA: Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class (related to Manganese compounds)

SARA 311/312: **Acute:** Yes **Chronic:** Yes **Fire:** No **Pressure:** No **Reactive:** No

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Phosphoric acid	7664-38-2	Yes	Yes	Yes	Yes	Yes	Yes
Fluoride compound (¹ related to Fluoride) (² related to Fluorides)	Proprietary	Yes¹	No	No	Yes²	No	Yes¹
Manganese Compound (¹ related to Manganese compounds) (² related to Manganese compounds, n.o.s.)	Proprietary	Yes¹	No	No	Yes²	No	No

Other Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

Material Safety Data Sheet

Material Name: PARCOLENE® LS 7200 ID: 237211

B: Component Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Propoxypropanol	1569-01-3	Yes	Yes	Yes
Phosphoric acid	7664-38-2	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Phosphoric acid	7664-38-2	1% item 1291 (127)
Manganese Compound	Proprietary	1% item 972 (1075) (related to Manganese compounds, n.o.s.)

* * * Section 16 - Other Information * * *

NFPA Ratings: Health: 3 **Fire:** 2 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
HMIS Ratings: Health: 3 **Fire:** 2 **Reactivity:** 0 **Pers. Prot.:**
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Sulinda Leffingwell
Contact Phone: (248) 583-9300

This is the end of MSDS # 237211

Material Safety Data Sheet

Material Name: BONDERLOC CLEANER 2 **ID: 237369**

*** Section 1 - Chemical Product and Company Identification ***

Product Trade Name BONDERLOC CLEANER 2

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

(248) 583-9300

(800) 424-9300

*** Section 2 - Composition / Information on Ingredients ***

CAS #	Component	Percent
1310-58-3	Potassium hydroxide	10-30
Proprietary	Surfactant(s)	1-10
1310-73-2	Sodium hydroxide	1-10

*** Section 3 - Hazards Identification ***

Emergency Overview:

DANGER -- CORROSIVE! Contact with this material will cause burns to the skin, eyes and mucous membranes.

Eye Contact:

This product is severely irritating to the eyes and may cause irreversible damage including burns and blindness.

Skin Contact:

Corrosive to the skin. Contact with the skin or mucous membranes may cause severe irritation and burns.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

*** Section 4 - First Aid Measures ***

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. For skin contact, flush with large amounts of water. Seek immediate medical attention.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

First Aid: Notes to Physician

No additional information available.

*** Section 5 - Fire Fighting Measures ***

Flash Point:	Not applicable	**Method Used:**	Not applicable	**Flammability Classification:**	Non-flammable
Upper Flammable Limit (UFL):	Not applicable	**Lower Flammable Limit (LFL):**	Not applicable		

Fire & Explosion Hazards:

This product is an aqueous mixture which will not burn.

Decomposition Products:

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:

Use any media suitable for the surrounding fires.

Fire-Fighting Instructions:

Firefighters should wear full protective clothing including self contained breathing apparatus.

*** Section 6 - Accidental Release Measures ***

Containment Procedures:

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up.

Clean-Up Procedures:

Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

*** Section 7 - Handling and Storage ***

Handling Procedures:

Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not inhale vapors or mists of this product. NEVER ADD WATER TO PRODUCT. For dilutions, add product slowly to water while stirring. Use caution; heat may be generated.

Storage Procedures:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials.

Manufacturer recommends storing above 40 °F. Thaw and mix thoroughly if frozen.

*** Section 8 - Exposure Controls / Personal Protection ***

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Potassium hydroxide (1310-58-3)

ACGIH: C 2 mg/m3
NIOSH: C 2 mg/m3

Sodium hydroxide (1310-73-2)
ACGIH: C 2 mg/m3
OSHA: 2 mg/m3 TWA
NIOSH: C 2 mg/m3

Engineering Controls:
Ventilation should effectively remove and prevent buildup of any vapor or mist generated from the handling of this product.

PERSONAL PROTECTIVE EQUIPMENT
As prescribed in the OSHA Standard for Personal Protective Equipment (29 CFR 1910.132), employers must perform a Hazard Assessment of all workplaces to determine the need for, and selection of, proper protective equipment for each task performed.

Eyes/Face Protective Equipment:
Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:
Use impervious gloves. The use of butyl rubber gloves is recommended. Use of impervious apron and boots are recommended.

Respiratory Protection:
If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Work Practices:
Eye wash fountain and emergency showers are recommended.

* * * Section 9 - Physical & Chemical Properties * * *

Physical State:	Liquid	**Appearance:**	Pale yellow
Odor:	None	**Boiling Point:**	>212 °F (>100 °C)
Specific Gravity:	1.25 - 1.35	**pH:**	>13
Viscosity:	Not applicable	**VOC:**	Not applicable
Solubility Water:	Complete	**Percent Solids:**	30-60

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability:
Stable under normal conditions.

Conditions to Avoid:
None expected.

Incompatibility:
This product reacts with acids.

Decomposition Products:
None expected.

Hazardous Polymerization:
Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity:
A: General Product Information
No information available for the product.

B: Component Analysis - LD50/LC50

Potassium hydroxide (1310-58-3)
Oral LD50 Rat : 273 mg/kg

Carcinogenicity:

A: General Product Information

No information available for the product.

B: Component Carcinogenicity

None of this product's components are listed by ACGIH, IARC, OSHA, NIOSH, or NTP.

Chronic Toxicity

None expected.

Epidemiology:

No information available for the product.

Neurotoxicity:

No information available for the product.

Mutagenicity:

No information available for the product.

Teratogenicity:

No information available for the product.

Other Toxicological Information:

None available.

*** Section 12 - Ecological Information ***

Ecotoxicity:

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Potassium hydroxide (1310-58-3)

Test & Species		Conditions
	LC50 (24 hr)	80.0 mg/L.
	mosquito fish	

Environmental Fate:

No data is available concerning the environmental fate, biodegradation or bioconcentration for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:

A: General Product Information

This product, if discarded directly, would be a characteristic RCRA corrosive waste (D002).

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations. This product contains a chelating agent.

* * * Section 14 - Transportation Information * * *

US DOT Information

Shipping Name: Please refer to the container label for transportation information.

* * * Section 15 - Regulatory Information * * *

US Federal Regulations

A: General Product Information

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Potassium hydroxide (1310-58-3)

CERCLA: final RQ = 1000 pounds (454 kg)

Sodium hydroxide (1310-73-2)

CERCLA: final RQ = 1000 pounds (454 kg)

SARA 311/312: **Acute:** Yes **Chronic:** No **Fire:** No **Pressure:** No **Reactive:** No

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Potassium hydroxide	1310-58-3	Yes	Yes	Yes	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes	Yes	Yes	Yes

Other Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis - InventoryComponent Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Potassium hydroxide	1310-58-3	Yes	Yes	Yes
Sodium hydroxide	1310-73-2	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Potassium hydroxide	1310-58-3	1%; English Item 1335; French Item 996
Sodium hydroxide	1310-73-2	1%; English Item 1442; French Item 998

* * * Section 16 - Other Information * * *

Material Safety Data Sheet

Material Name: BONDERLOC CLEANER 2 **ID: 237369**

NFPA Ratings: Health: 3 **Fire:** 0 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
HMIS Ratings: Health: 3 **Fire:** 0 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Regulatory Affairs and Product Acceptance
Contact Phone: (248) 583-9300

Material Safety Data Sheet

Material Name: BONDERLOC 2002 **ID: 237368**

* * * Section 1 - Chemical Product and Company Identification * * *

Product Trade Name BONDERLOC 2002

Manufacturer Information

Henkel Surface Technologies
Henkel Corporation
32100 Stephenson Highway
Madison Heights, MI 48071

(248) 583-9300

(800) 424-9300

* * * Section 2 - Composition / Information on Ingredients * * *

CAS #	Component	Percent
7664-38-2	Phosphoric acid	1-10
7439-96-5	Manganese compound	1-10
16984-48-8	Fluoride compound	1-10
1569-01-3	Propoxypropanol	1-10

Component Related Regulatory Information

This product may be regulated, have exposure limits or other information identified as the following: Manganese compounds, n.o.s..

* * * Section 3 - Hazards Identification * * *

Emergency Overview:

DANGER! Liquid or vapor can cause fluoride-type irritation or burns which may not be immediately painful or visible. Combustible liquid.

Eye Contact:

This product is severely irritating to the eyes.

Skin Contact:

This product may cause irritation to the skin. Following skin exposure to this product, the sensation of irritation or pain may be delayed. Liquid or vapor can cause fluoride-type irritation or burns which may not be immediately painful or visible.

Skin Absorption:

None expected.

Ingestion:

This product may produce corrosive damage to the gastrointestinal tract if it is swallowed.

Inhalation:

Inhalation of mists of this product may cause severe irritation and burns to the respiratory tract.

Medical Conditions Aggravated by Exposure:

Pre-existing eye, skin and respiratory disorders.

* * * Section 4 - First Aid Measures * * *

Eye Contact:

In case of contact with the eyes, rinse immediately with plenty of water for 15 minutes, and seek immediate medical attention.

Skin Contact:

Immediately take off all contaminated clothing. Flush with large amounts of water. Soak the affected area for one hour in an iced solution (0.13%) of Zephiran chloride (30 cc of 17% concentrate per gallon of iced distilled water.) GET MEDICAL ATTENTION IMMEDIATELY.

Ingestion:

If the material is swallowed, get immediate medical attention or advice -- Do not induce vomiting. Give one to two glasses of water or milk. Never give anything by mouth to a victim who is unconscious or is having convulsions.

Inhalation:

If mist or vapor of this product is inhaled, remove person immediately to fresh air. Seek medical attention if symptoms develop or persist.

* * * Section 5 - Fire Fighting Measures * * *

Flash Point:	188 °F (86.7 °C)	**Method Used:**	T.C.C.	**Flammability Classification:**	Combustible
Upper Flammable Limit (UFL):	Not determined	**Lower Flammable Limit (LFL):**	Not determined		

Fire & Explosion Hazards:

Combustible liquid.

Decomposition Products:

Irritating and toxic gases or fumes may be released during a fire.

Extinguishing Media:

Dry chemical, foam, carbon dioxide, water fog.

Fire-Fighting Instructions:

Firefighters should wear full protective clothing including self contained breathing apparatus.

* * * Section 6 - Accidental Release Measures * * *

Containment Procedures:

Stop the flow of material, if this is without risk. Wear appropriate protective equipment and clothing during clean-up.

Clean-Up Procedures:

Absorb spill with inert material. Shovel material into appropriate container for disposal. Dispose of collected material according to regulation.

* * * Section 7 - Handling and Storage * * *

Handling Procedures:

Do not get this material in your eyes, on your skin, or on your clothing. Wash thoroughly after handling. Do not inhale vapors or mists of this product. For industrial use only. Do not take internally.

Storage Procedures:

Keep container tightly closed and in a cool, well-ventilated place away from incompatible materials. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose such containers to heat, flame, sparks, static electricity, or other sources of ignition; they may explode. Store between 40 and 100 °F.

* * * Section 8 - Exposure Controls / Personal Protection * * *

Exposure Guidelines:

A: General Product Information

Follow all applicable exposure limits.

B: Component Exposure Limits

Fluoride compound (16984-48-8)

ACGIH: 2.5 mg/m3 TWA (as F)
OSHA: as F: 2.5 mg/m3 TWA
NIOSH: as F: 2.5 mg/m3 TWA

Manganese compound (7439-96-5)

ACGIH: 0.2 mg/m3 TWA
OSHA: C 5 mg/m3 (fume)
NIOSH: as Mn: 1 mg/m3 TWA
3 mg/m3 STEL

Phosphoric acid (7664-38-2)

ACGIH: 1 mg/m3 TWA
3 mg/m3 STEL
OSHA: 1 mg/m3 TWA
3 mg/m3 STEL
NIOSH: 1 mg/m3 TWA
3 mg/m3 STEL

Engineering Controls:

Use general ventilation and use local exhaust, where possible, in confined or enclosed spaces.

PERSONAL PROTECTIVE EQUIPMENT

As prescribed in the OSHA Standard for Personal Protective Equipment (29 CFR 1910.132), employers must perform a Hazard Assessment of all workplaces to determine the need for, and selection of, proper protective equipment for each task performed.

Eyes/Face Protective Equipment:

Wear chemical goggles; face shield (if splashing is possible).

Skin Protection:

Use impervious gloves. Gloves should be tested to determine suitability for prolonged contact. Use of impervious apron and boots are recommended.

Respiratory Protection:

If ventilation is not sufficient to effectively prevent buildup of aerosols or vapors, appropriate NIOSH/MSHA respiratory protection must be provided.

Work Practices:

Eye wash fountain and emergency showers are recommended.

* * * Section 9 - Physical & Chemical Properties * * *

Physical State:	Liquid	**Appearance:**	Brown
Odor:	Slight	**Vapor Pressure:**	Not determined
Vapor Density:	Not determined	**Boiling Point:**	>200 °F (>93.3 °C)
Specific Gravity:	1.05 - 1.15	**pH:**	1
Viscosity:	Not determined	**VOC:**	5% (theoretical)
Solubility Water:	Complete	**Evaporation Rate:**	Not determined
Percent Volatile:	Not determined	**Percent Solids:**	1-10

* * * Section 10 - Chemical Stability & Reactivity Information * * *

Chemical Stability:

Stable under normal conditions.

Conditions to Avoid:
Keep away from heat, ignition sources and incompatible materials.

Incompatibility:
This product may react with strong alkalies. This material will react with glass, concrete, certain metals, silica containing materials, rubber, leather, and many organics.

Decomposition Products:
Upon decomposition, this product emits carbon monoxide, carbon dioxide and/or low molecular weight hydrocarbons. May liberate hydrogen fluoride.

Hazardous Polymerization:
Will not occur.

* * * Section 11 - Toxicological Information * * *

Acute Toxicity:
A: General Product Information
No information available for the product.

B: Component Analysis - LD50/LC50

Propoxypropanol (1569-01-3)
Oral LD50 Rat : 2504 mg/kg
Dermal LD50 Rabbit : 3550 mg/kg

Manganese compound (7439-96-5)
Oral LD50 Rat : 9 gm/kg

Phosphoric acid (7664-38-2)
Inhalation LC50 Rat : >850 mg/m3/1H
Oral LD50 Rat : 1530 mg/kg
Dermal LD50 Rabbit : 2740 mg/kg

Carcinogenicity:
A: General Product Information
No information available for the product.

B: Component Carcinogenicity

Fluoride compound (16984-48-8)
ACGIH: A4 - Not Classifiable as a Human Carcinogen (as F)

Chronic Toxicity
Chronic fluoride exposure can produce fluorosis, a condition characterized by nausea, vomiting, loss of appetite, diarrhea or constipation, anemia, weakness, and joint stiffness.

Epidemiology:
No information available for the product.

Neurotoxicity:
No information available for the product.

Mutagenicity:
No information available for the product.

Teratogenicity:
No information available for the product.

Other Toxicological Information:
None available.

*** Section 12 - Ecological Information ***

Ecotoxicity:

A: General Product Information

No data available for this product.

B: Component Analysis - Ecotoxicity - Aquatic Toxicity

Phosphoric acid (7664-38-2)

Test & Species		Conditions
	LC50 (96 hr)	138 mg/L.
	mosquito fish	

Environmental Fate:

No data available for this product.

*** Section 13 - Disposal Considerations ***

US EPA Waste Numbers & Descriptions:

A: General Product Information

Wastes of this product may meet the characteristics of a RCRA corrosive waste (D002).

B: Component Waste Numbers

No EPA Waste Numbers are applicable for this product's components.

Disposal Instructions:

Dispose of waste material according to Local, State, Federal, and Provincial Environmental Regulations.

*** Section 14 - Transportation Information ***

US DOT Information

Shipping Name: Please refer to the container label for transportation information.

*** Section 15 - Regulatory Information ***

US Federal Regulations

A: General Product Information

This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).

B: Component Analysis

This material contains one or more of the following chemicals required to be identified under SARA Section 302 (40 CFR 355 Appendix A), SARA Section 313 (40 CFR 372.65) and/or CERCLA (40 CFR 302.4).

Manganese compound (7439-96-5)

SARA 313: form R reporting required for 1.0% de minimis concentration
CERCLA: Statutory RQ = 1 pound (.454 kg); no final RQ is being assigned to the generic or broad class (related to Manganese compounds)

Phosphoric acid (7664-38-2)

CERCLA: final RQ = 5000 pounds (2270 kg)

SARA 311/312: **Acute:** Yes **Chronic:** Yes **Fire:** Yes **Pressure:** No **Reactive:** No

State Regulations

A: General Product Information

No additional information available.

B: Component Analysis - State

The following components appear on one or more of the following state hazardous substances lists:

Component	CAS #	CA	FL	MA	MN	NJ	PA
Fluoride compound	16984-48-8	Yes	No	No	Yes	No	Yes
Manganese compound	7439-96-5	Yes	Yes	Yes	Yes	Yes	Yes
Phosphoric acid	7664-38-2	Yes	Yes	Yes	Yes	Yes	Yes

Other Regulations

A: General Product Information

All components are on the U.S. EPA TSCA Inventory List.

B: Component Analysis - InventoryComponent Analysis - Inventory

Component	CAS #	TSCA	DSL	EINECS
Propoxypropanol	1569-01-3	Yes	Yes	Yes
Fluoride compound	16984-48-8	No	No	No
Manganese compound	7439-96-5	Yes	Yes	Yes
Phosphoric acid	7664-38-2	Yes	Yes	Yes

C: Component Analysis - WHMIS IDL

The following components are identified under the Canadian Hazardous Products Act Ingredient Disclosure List:

Component	CAS #	Minimum Concentration
Manganese compound	7439-96-5	1%; English Item 974; French Item 1077
Phosphoric acid	7664-38-2	1%; English Item 1291; French Item 127

* * * Section 16 - Other Information * * *

NFPA Ratings: Health: 3 **Fire:** 2 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe
HMIS Ratings: Health: 3* **Fire:** 2 **Reactivity:** 0
Hazard Scale: 0 = Minimal 1 = Slight 2 = Moderate 3 = Serious 4 = Severe * = Chronic hazard

Key/Legend

EPA = Environmental Protection Agency; TSCA = Toxic Substance Control Act; ACGIH = American Conference of Governmental Industrial Hygienists; IARC = International Agency for Research on Cancer; NIOSH = National Institute for Occupational Safety and Health; NTP = National Toxicology Program; OSHA = Occupational Safety and Health Administration; NFPA = National Fire Protection Association; HMIS = Hazardous Material Identification System; CERCLA = Comprehensive Environmental Response, Compensation and Liability Act; SARA = Superfund Amendments and Reauthorization Act

The information presented herein is believed to be factual as it has been derived from the works and opinions of persons believed to be qualified experts; however, nothing contained in this information is to be taken as a warranty or representation for which Henkel Surface Technologies bears legal responsibility. The user should review any recommendations in the specific context of the intended use to determine whether they are appropriate.

Contact: Regulatory Affairs and Product Acceptance
Contact Phone: (248) 583-9300

SPRAY CLEANER 1304P

Material Safety Data Sheet

JAN 6 3 36 PM '03

Manufacturer:	Mid-State Chemical & Supply Corporation
Address:	2100 Greenbrier Lane
City, State Zip:	Indianapolis, Indiana 46218
Emergency Telephone:	InfoTrac: 800-535-5053
Other Information Telephone:	317-925-1407
Date Prepared:	5/13/99
Date Supercedes:	

SECTION 1 - Hazardous Ingredients/Identity:

Product	OSHA PEL	ACGIH TLV	Percent	Cas No.
Potassium Hydroxide	2MG/M^3	2MG/M^3	10-15%	1310-58-3
*2-Butoxyethanol	50 PPM	50 PPM	2-7%	111-76-2

Balance of product non-hazardous under OSHA's Standard 29CFR 1910.1200
*Sara Title III Hazardous Air Pollutant

SECTION 2 - Physical & Chemical Characteristics:

Boiling Point:	Approx 235°F
Specific Gravity:	1.16 G/CC
Vapor Pressure:	Nil
Vapor Density:	N/A
Solubility in Water:	Soluble
Reactivity in Water:	None
Appearance and Odor:	Amber liquid with a solvent odor
Melting Point:	N/A

SECTION 3 - Fire & Explosion Data:

Flash Point:	No flash point
Method Used:	
Flammable Limits in Air % By Volume:	**LEL Lower:** **UEL Upper:**
Auto-Ignition Temperature:	N/A
Extinguisher Media:	N/A
Special Fire Fighting:	N/A
Unusual Fire and Explosion Hazards:	Will react with metals such as aluminum, zinc, and tin to release flammable hydrogen gas

SECTION 4 - Physical Hazardous:

Stability:	Stable
Conditions to Avoid:	
Incompatibility:	Reaction with acids, flammable liquid or chlorinated organic compounds
Hazardous Decomposition Products:	Carbon Monoxide and Carbon Dioxide
Hazardous Polymerization:	Will not occur

SECTION 5 - Health Hazards:

Acute:	Extremely corrosive to eye tissues			
Chronic:	Repeated skin contact may cause dermatitis			
Signs and Symptoms of Exposure:	Sore throat, shortness of breath, coughing			
Medical Conditions Generally Aggravated by Exposure:	Causes severe burns and irritation to cuts, rashes or sensitive areas			
Chemical Listed as Carcinogen or Potential Carcinogen:	**National Toxicology Program:**	No		
	I.A.R.C. Monographs:	No		
	OSHA:	No		
First Aid Procedures:	**Skin:**	Remove contaminated clothing and wash skin for 5 minutes		
	Eyes:	Flush eyes with water for 15 minutes, get medical attention		
	Inhalation:	Remove from area of exposure to fresh air, get medical attention if necessary		
	Ingestion:	Drink plenty of water or fruit juice, DO NOT induce vomiting, get medical attention.		
Routes of Entry:	**Skin:**	Causes skin irritation, prolonged exposure will cause severe burns with scarring		
	Eyes:	Causes rapid eye tissue destruction which may lead to permanent eye damage		
	Inhalation:	Can cause destructive burns to the mucous membranes		
	Ingestion:	Causes severe burns to mouth, throat, and stomach		
HMIS Codes:	**Health:**	2	**Reactivity:**	0
	Flammability:	0	**Protection:**	C

SECTION 6 - Special Precautions and Spill/Leak Procedures:

Handling and Storage:	Store in areas away from acids. Store product with lid securely on container.
Material is Released or Spilled:	Clean up personnel must have proper protective equipment. Dilute with water and carefully neutralize with acid to pH of 7.
Waste Disposal Methods:	Dilute with water and neutralize. Follow all applicable regulations for alkaline materials.

SECTION 7 - Special Protection Information/Control Measures:

Respirator Protection:	NIOSH approved self-contained breathing apparatus for exposure above TLV
Ventilation:	Exhaust Fan
Protective Gloves:	Rubber or Neoprene Gloves
Eye Protection:	Chemical Safety goggles which are splash proof
Other Protective Clothing or Equipment:	Rubber apron, rubber shoes and head covering should be worn
Hygienic Practices:	Wash hands thoroughly after using product

PHOS BOND 3630

MATERIAL SAFETY DATA SHEET

QUICK INDENTIFIER

COMMON NAME: (USED ON LABEL AND LIST)

MAY BE USED TO COMPLY WITH OSHA'S HAZARDOUS COMMUNICATION STANDARD, 29CFR 1910.1200. STANDARDS MUST BE CONSULTED FOR SPECIFIC REQUIREMENTS.

SECTION 1-

MANUFACTURE'S NAME	MID-STATE CHEMICAL & SUPPLY CORP.			H HEALTH	3
ADDRESS	2100 GREENBRIER LANE	EMERGENCY TELEPHONE NO.	800-535-5053	F FLAMMABILITY	0
CITY, STATE, & ZIP	INDIANAPOLIS, IN 46218	OTHER INFORMATION CALLS	317-925-1407	R REACTIVITY	0
SIGNATURE OF PERSON RESPONSIBLE FOR PREPARATION (OPTIONAL)	John L. DeSantis	DATE PREPARED	06-09-97	PERSONAL PROTECTION	C

SECTION 2-HAZARDOUS INGREDIENTS/IDENTITY

HAZARDOUS COMPONENT(S)(CHEMICAL AND COMMON NAME(S))	OSHA PEL	ACGIH TLV	OTHER EXPOSURE LIMITS	% (OPTIONAL)	CAS NO.
Hydrogen Hexafluorozirconate	5MG/M³	5MG/M³		25-30%	12021-95-3

Balance of product non-hazardous unders OSHA's Standard 29CFR 1910.1200

SECTION 3-PHYSICAL & CHEMICAL CHARACTERISTICS

BOILING POINT	212°F	SPECIFIC GRAVITY (H_2O=1)	1.15 G/CC	VAPOR PRESSURE (mm Hg)	N/A
VAPOR DENSITY (AIR=1)	N/A	pH (as is)	1.5		
SOLUBILITY IN WATER	Complete	REACTIVITY IN WATER	None		
APPEARANCE AND ODOR	Clear green liquid with a mild odor	MELTING POINT	N/A		

SECTION 4-FIRE & EXPLOSION DATA

FLASH POINT	F.	C.	METHOD USED	No Flash Point	FLAMMABLE LIMITS IN AIR % BY VOLUME	LEL LOWER	UEL UPPER

AUTO-IGNITION TEMPERATURE	None	EXTINGUISHER MEDIA	None
SPECIAL FIRE FIGHTING	None		
UNUSUAL FIRE AND EXPLOSION HAZARDS	None		

SECTION 5-PHYSICAL HAZARDS (REACTIVITY DATA)

STABILITY UNSTABLE☐ STABLE☒ CONDITIONS TO AVOID

INCOMPATIBILITY (MATERIALS TO AVOID): Reaction with oxidizing chemicals.

HAZARDOUS DECOMPOSITION PRODUCTS: Hydrogen fluoride

HAZARDOUS POLYMERIZATION MAY OCCUR☐ WILL NOT OCCUR☒ CONDITIONS TO AVOID

SECTION 6-HEALTH HAZARDS

1.ACUTE May cause permanent eye damage 2.CHRONIC No chronic effects are known

SIGNS AND SYMPTOMS OF EXPOSURE: May cause skin burns. May cause severe eye burns.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Exposure to skin cuts or rashes may cause irritation or burning

CHEMICAL LISTED AS CARCINOGEN OR POTENTIAL CARCINOGEN

NATIONAL TOXICOLOGY PROGRAM	L.A.R.C MONOGRAPHS	OSHA
YES☐ NO☒	YES☐ NO☒	YES☐ NO☒

EMERGENCY AND FIRST AID PROCEDURES **EYES:** Flush with water for 15 minutes, seek medical attention. **SKIN:** Wash affected area immediately with soap and water. **INGESTION:** DO NOT INDUCE VOMITING. Give milk or water, seek prompt medical attention. **INHALATION:** Remove person to fresh air.

ROUTES OF ENTRY	1.INHALATION	Breathing vapors over TLV limit is hazardous
	2.EYES	Highly corrosive
	3.SKIN	Slightly corrosive
	4.INGESTION	Moderately hazardous

SECTION 7-SPECIAL PRECAUTIONS AND SPILL/LEAK PROCEDURES

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORAGE: Keep container closed. Store away from alkaline materials. Use product only as intended

STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED: Sprinkle spills with soda ash, dilute with plenty of water. Place spills in clean containers for later disposal.

WASTE DISPOSAL METHODS (CONSULT FEDERAL,STATE, AND LOCAL REGULATIONS): Neutralize with soda ash and dilute with water. Follow all Federal, State & Local regulations.

SECTION 8-SPECIAL PROTECTION INFORMATION/CONTROL MEASURES

RESPIRATORY PROTECTION (SPECIFY TYPE): None required as product is diluted during use.

VENTILATION LOCAL EXHAUST MECHANICAL (GENERAL) SPECIAL OTHER

PROTECTIVE GLOVES: Rubber or Neoprene

EYE PROTECTION: Chemical Goggles

OTHER PROTECTIVE CLOTHING OR EQUIPMENTS: Wear protective outer clothing if splashing occurs.

WORK/HYGIENIC PRACTICES